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Extron Electronics
INTERFACING, SWITCHING AND DISTRIBUTION

User's Manual

MODEL 10 PLUS
MODEL 8 PLUS
SWITCHERS

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Legend of Icons

The following icons may be used in this manual:

Important information – for example, an action or a step that must be done before proceeding.

A Warning – possible damage could occur.

A Note, a Hint, or a Tip that may be helpful.

Possible Electrostatic Discharge (ESD) damage could result from touching electronic components.

Additional information may be referenced in another section, or in another document.

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Extron's Model 8/10 PLUS Switchers
User's Manual

Chapter One

Model 8/10 PLUS Switcher

Introduction

Features

Specifications

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Introduction

About This Manual

This manual includes operation, configuration and option information for the Model 8 PLUS and Model 10 PLUS (Model 8/10 PLUS) Switchers.

Model 8/10 PLUS Facts and Features

The Model 8/10 PLUS Switchers enable selection of anyone of eight (or ten) inputs with the following formats:

- RGBS
- RGsB
- S-Video/SVHS (Y/C) w/Stereo Audio follow
- Composite Video (NTSC/PAL) w/Stereo Audio follow

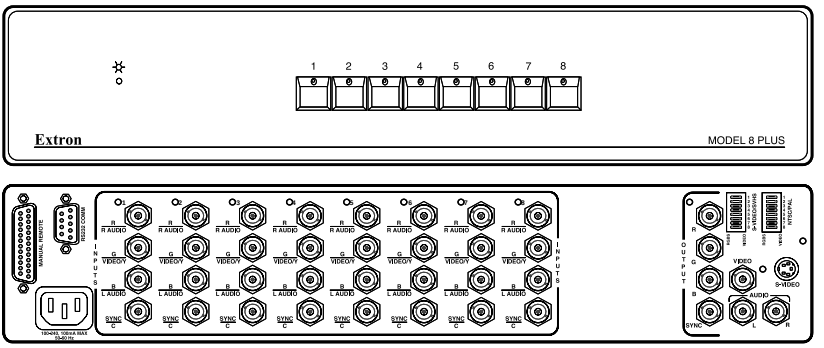
The output video format of the Model 8/10 PLUS switchers will always be the same as the selected input video format.

Standard features of the Model 8/10 PLUS switchers are:

- Bandwidth = 300 MHz
- Front Panel Control of Input Selection
- Manual Remote Control Port
- RS-232 Control Port
- BNC Connector Inputs
- Rear Panel Input LED Indicators
- Unused Inputs Terminated at 75 ohms
- BNC and S-Video Output Connectors
- Triple Action Switching™
- Audio (Stereo) Follow capable with Composite or S-Video
- Internal Switch Mode Power Supply

Available Models and Part Numbers are:
Model 8 PLUS Switcher – **60-094-01**
Model 10 PLUS Switcher – **60-095-01**

The Model 8 PLUS front and back panels are shown below.



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Description of Features

Outputs – Because switching is direct, the output will always have the same format as the selected input. Separate output connectors are provided for RGBS, S-Video, Composite Video, and Audio.

300 MHz Bandwidth – The wide bandwidth allows signals to be passed without loss of resolution. This is extremely important when using high resolution computer workstations.

Triple Action Switching™ (RGB Delay) – Triple Action Switching™ is a technique in which the RGB video is blanked for a brief period when a new input is selected. This prevents a distorted image from being displayed during the time the display device sync circuitry is locking onto the new sync input. When an input is selected, Triple-Action Switching® does this:

1. Drop the RGB video signals leaving sync connected.
2. Wait for 20 mS and then switch to the new sync signal.
3. Wait for the time delay set by the user (0.0 - 7.5 seconds) and then switch to the new RGB signals. (During this time the projector is setting up to match the new sync.)

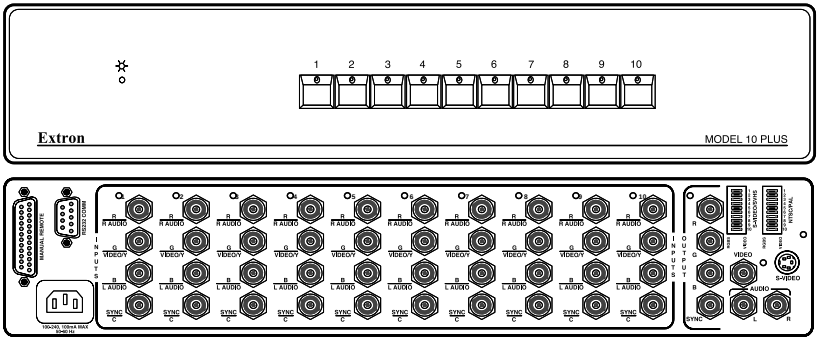
Switcher Control – Each channel of the switcher can be controlled in any one of the following ways:

1. Front Panel Buttons.
2. Manual Remote Control Connector – KP-10 Wired Remote Control, IR-10 Infrared Remote Control or third party remote control.
3. RS-232 Control Connector – Provides for computer/serial control of the switcher.

Internal Power Supply – The Model 8/10 PLUS switchers have an internal, auto-switching (100 - 240 VAC, 50/60 Hz) power supply. The Model 8/10 PLUS switchers are UL, CE and CSA approved.

Rear Panel LED Indicators – Rear panel LEDs indicate which input is selected and which outputs are active.

The Model 10 PLUS front and back panels are shown below.



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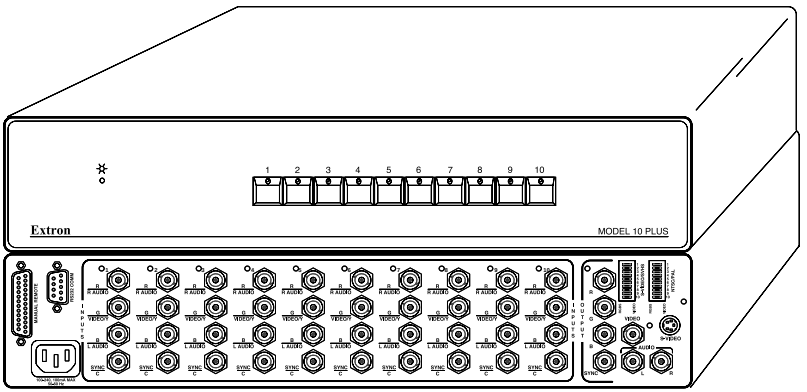
Specifications

General

Operation Temperature	0°-50° C
Storage Temperature	-20°-70°
MTBF Demonstrated	30,000 Hours
Approvals	UL Listed, CSA, CE
Dimensions	17" W x 9.25" D x 3.31" H
	43.2cm W x 23.5cm D x 8.4cm H
Shipping Weights	13.0 lbs.
	5.9 kg
Power Supply	Internal 100-240 VAC, 50/60 Hz
Warranty	2 years parts and labor
	(See warranty info-last page)

Video

Bandwidth	300 MHz
Crosstalk at 10 MHz	-35 db (typical)
Isolation at 10 MHz	55 db (typical)
Return loss at 10 MHz	25 db
Input Impedance	75 Ohms
Output Impedance	75 Ohms
Termination Impedance	75 Ohms
Sync Input Impedance	510 Ohms
Gain	None
Connectors	Input Type
	BNC (Female)
	Output Type
	BNC (Female)
	4 Pin Mini-DIN (S -Video)



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2

Chapter Two

Model 8/10 PLUS Switcher Operation and Installation

Switcher Operation

Front Panel

Rear Panel

Switcher Installation Guide

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Model 8/10 Switcher Operation

The Model 8/10 PLUS switchers enable the output to be switched from anyone of 8 or 10 inputs (A)* and the following formats are supported:

- RGBS – RGB with separate composite sync
- RGsB – RGB with sync on green
- Monochrome Composite Video
- NTSC/PAL (Composite) Video w/Stereo Audio follow
- S-Video (SVHS) w/Stereo Audio follow

When an input is selected, an LED will illuminate green next to the selected BNC input connectors on the rear panel (H)*.

Three sets of output connectors are used for the four different video format outputs. They are:

- RGB (RGBS or RGsB) – 4 BNC connectors (B)*
- VIDEO (NTSC/PAL) – 1 BNC connector (C)*
- S-Video (SVHS) – 1 S-Video DIN connector (D)*

Audio, if used, is available on the two output BNC connectors labeled AUDIO (L and R) (E)*.

Only one set of output connectors is active at a time. The current active set is identified by an illuminated LED next to the active output connector(s) (F)*.

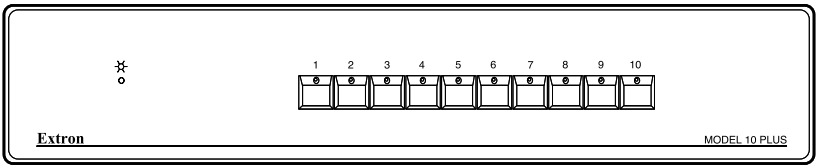
The Output Select DIP Switch (G)* settings will determine which of the three output connectors that the selected input will be directed to. These switches must be set for each input to match the incoming format. There are two switch modules, the left switch module is for RGBS/S-Video selection and the right switch module is for RGBS/NTSC-PAL selection. The switch modules are numbered from top to bottom to match the input number.

Front Panel

The POWER LED (see front panel drawing below), when illuminated, indicates that the switcher power is on. If AC voltage is available to the switcher, it is powered on.

Front Panel switches 1 – 10 (Model 8 = 1 – 8) shown in the drawing below may be used to select the input. The LED in the front panel switch for the selected input will be illuminated.

** – (A) thru (K) refer to the drawing and descriptions on the facing page.*



Model 10 PLUS Front Panel

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Rear Panel

The following descriptions are keyed* to the Model 10 rear panel drawing below.

A There are four BNC connectors per input. The Model 8 PLUS and Model 10 PLUS switchers have 8 and 10 sets of input connectors. See "Connecting the Inputs" on page 2-3.

B RGB output will be available on this set of four BNC connectors if the selected input video format is RGB and the S-Video/SVHS and NTSC/PAL DIP switch modules are set to RGBS for the selected input number.

C NTSC/PAL video output will be available on this BNC connector if the selected input video format is NTSC/PAL and the NTSC/PAL DIP switch module is set to VIDEO (S-Video/ SVHS switch is set to RGBS) for the selected input number.

D S-Video output will be available on this DIN connector if the selected input video format is S-Video and the S-Video/SVHS DIP switch module is set to VIDEO (NTSC/PAL is set to RGBS) for the selected input number.

E Audio follow, if used, will be available on these two BNC connectors. Audio follow is valid only with NTSC/PAL or S-Video input video formats. The left connector is for the left audio channel and the right connector is for the right audio channel.

F These three LEDs are located next to the three video outputs and one of the three will illuminate to identify the connector(s) with video output for the selected video input.

G The switches within the two DIP switch modules are used to identify the format of each video input and to steer the video to the proper output connectors.

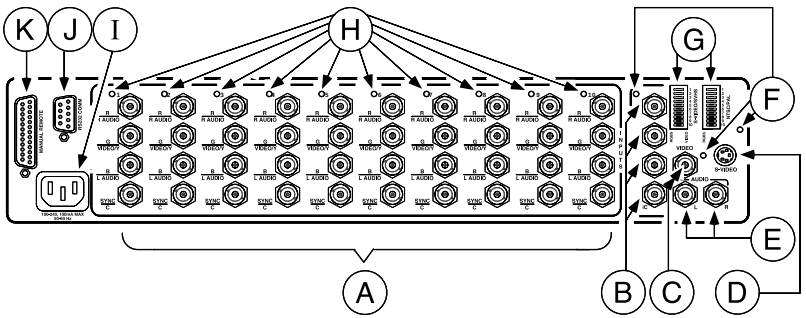
H Selected input LEDs.

I AC line voltage input connector.

J RS-232 connector - See page 3-1 for a detailed description.

K Remote connector - See page A-1 for a detailed description.

* – Letters next to the descriptions above are keyed to the circled letters in the drawing below.



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Model 8/10 PLUS Switcher Installation Guide

The recommended installation procedure for the Model 8 PLUS and Model 10 PLUS Switchers is:

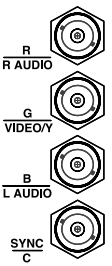
1. Prior to installing the switcher (because it requires opening the case) do the procedure "Changing the Baud Rate" on page 2-7 if necessary.
2. If the switcher is to be rack mounted, install it in the rack using the procedure "Rack Mounting the Switcher" on page A-4.
3. Connect switcher input and output cables using the diagram on the facing page as a general guide (also see "Connecting the Inputs" below).
4. Set the Output Select DIP Switches using the procedure "Output Select DIP Switch Setting" on page 2-5.
5. If the switcher RS-232 connector is to be used, connect it to the computer using the procedure "Model 8/10 Switcher Connection to Computer" on page 2-8.
6. If the Extron KP-10 Remote Control is to be used, connect it to the switcher using the procedure on page A-2.
7. If the Extron IR-10 Remote control is to be used, connect it to the switcher using the procedure on page A-3.
8. If a third party remote control device is to be used, connect it to the switcher using the information on page A-1 as a guide.
9. Upon completion of switcher installation, use "Model 8/10 Switcher Operation" on page 2-1 as a guide to operate the switcher .
10. If RS-232 control of the switcher is to be used, use Chapter 3, "Model 8/10 PLUS RS-232 Control" as a guide.

_ *If a projector is connected to the RGB output and picture sizing, rolling, or other forms of distortion occur for an instant after the input is switched, the Triple Action Switching™ adjustment on page 2-8 may be required.*

Connecting the Inputs

Use the chart below as a guide to connecting inputs to the four BNC input connectors shown to the right. Use the inputs listed under the appropriate video format at the top of the table.

RGBS	RGsB	S-Video/SVHS	NTSC/PAL
R = RED	R = RED	R (Right) Audio	R (Right) Audio
G = Green	G = Green	Y Video	Video
B = Blue	B = Blue	L (Left) Audio	L (Left) Audio
Sync	Unused	C Video	Unused



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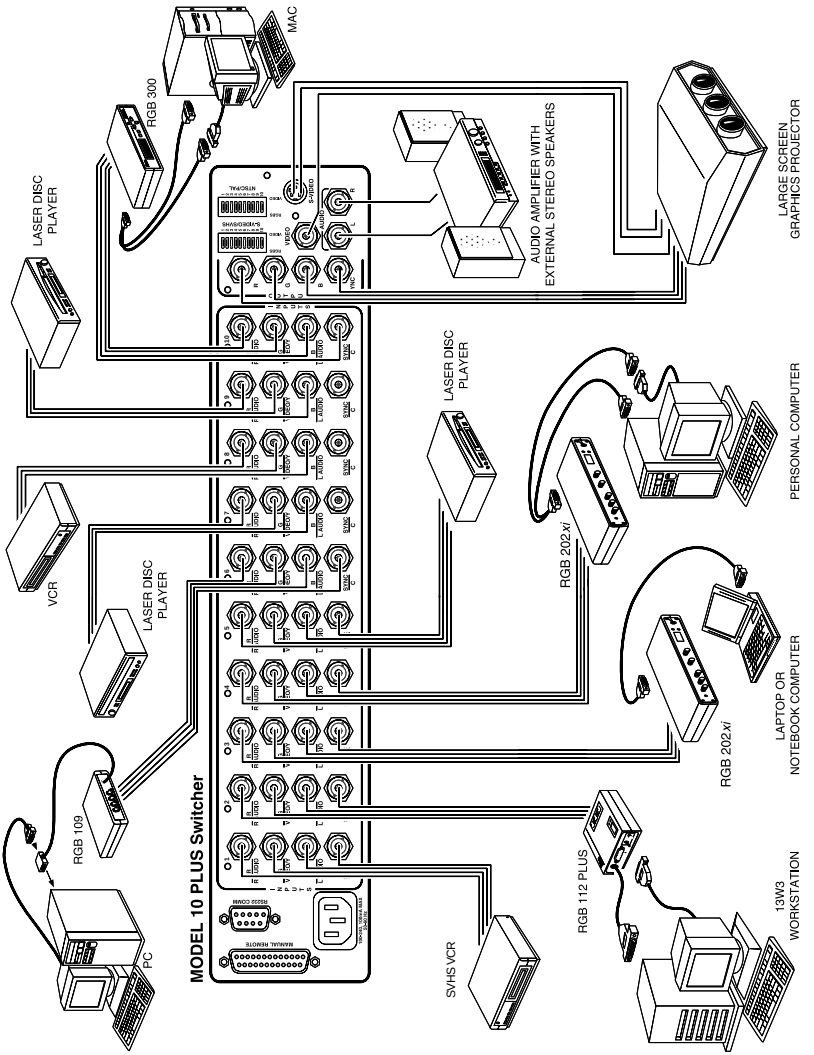

*The S-Video output from the SVHS VCR would most likely require a user supplied S-Video to BNC adapter to connect to the Model 8 PLUS or Model 10 PLUS switcher. The Extron Part Number for an adapter of this type is **26-353-01**.*

Composite video outputs and audio outputs from Laser Disc Players and VCRs will most likely require RCA to BNC adapters. An adapter of this type can generally be purchased at your local electronics store.

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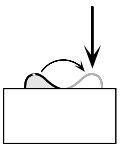
Output Select DIP Switch Setting

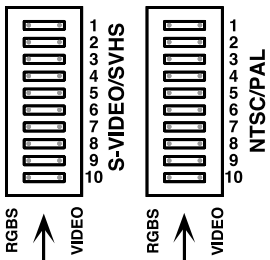
As mentioned earlier, the Output Select DIP switches must be set to define the video format of each input. The DIP Switch modules, labeled S-VIDEO/SVHS and NTSC/PAL are shown in the drawing at the bottom of this page. Each module has 10 (8 if Model 8 PLUS) switches which are numbered to match the input numbers. RGBS and VIDEO labels under the switch modules identify the left and right switch positions. When setting the Output Select Switch Module switches, use the following rules as a guide:

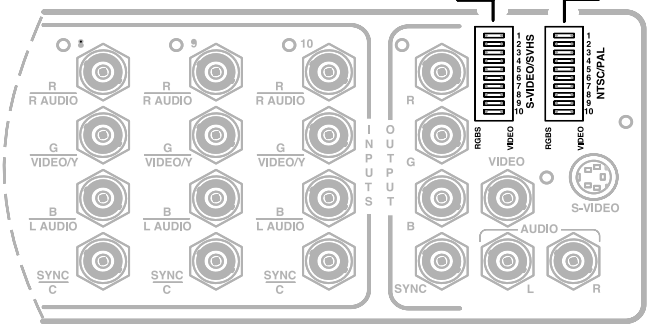
- All RGB inputs must have the corresponding switch positions on both switch modules set to RGBS. If all switcher inputs are RGB format, all of the Output Select DIP switches must be set to the RGBS position.
- All S-Video inputs must have the corresponding switch positions on the S-VIDEO/SVHS module set to VIDEO. The corresponding NTSC/PAL switches must be in the RGBS position.
- All NTSC/PAL inputs must have the corresponding switch positions on the NTSC/PAL switch module set to VIDEO. The corresponding S-Video switches must be in the RGBS position.



The DIP switch modules used in the Model 8/10 PLUS switchers are the "rocker" type (see end view drawing to the left). The major difference between the rocker type and the "slide" type (which could also be used) is the action required to change the position of the switch.

To change the position of the rocker type switch, press down on the desired end (RGBS or VIDEO) with a pointed object. To change the position of the slide switch, a small screwdriver is used to push (slide) the switch to the desired position (RGBS or VIDEO).
See examples on facing page.





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Example Output Select DIP Switch Settings

The diagram below shows five inputs of a Model 8 PLUS Switcher connected to the following devices:

1. SVHS VCR (S-Video output to switcher)
2. Extron RGB 112 PLUS Interface/Workstation
3. Extron RGB 202xi Universal Interface/Laptop Computer
4. Extron RGB 202xi Universal Interface/Personal Computer
5. Laser Disc Player (Composite Video output to switcher)

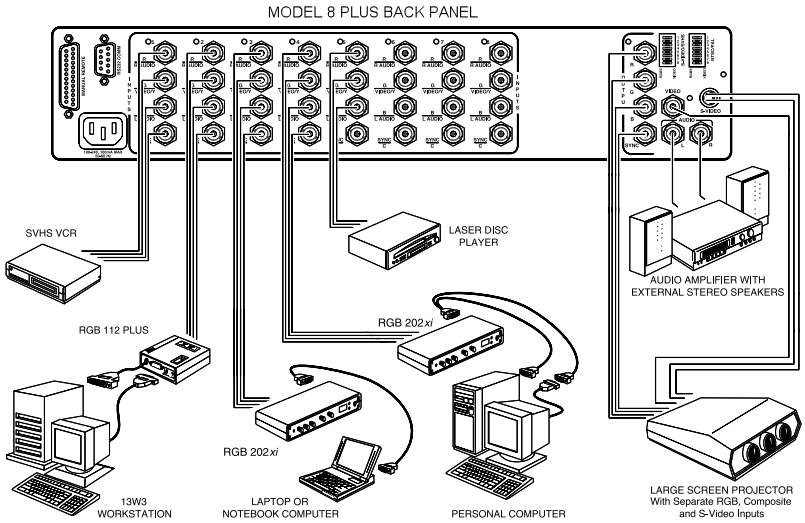
The output select DIP switch settings for this combination of inputs and the valid output connectors are:

Switch #	Switch Module S-Video/SVHS	Switch Module NTSC/PAL	Video Output Connector
1	VIDEO	RGBS	S-VIDEO DIN
2	RGBS	RGBS	RGBS BNCs
3	RGBS	RGBS	RGBS BNCs
4	RGBS	RGBS	RGBS BNCs
5	RGBS	VIDEO	VIDEO BNC

Having both switch modules set to VIDEO for any switch position (Input #) is an invalid combination.

Audio output will be available at the AUDIO output BNC connectors when input #1 or #5 is selected.

The three video output types can be connected to a single display that is capable of accepting all three video formats as shown in the diagram, or, they can be split between two or three different output devices.



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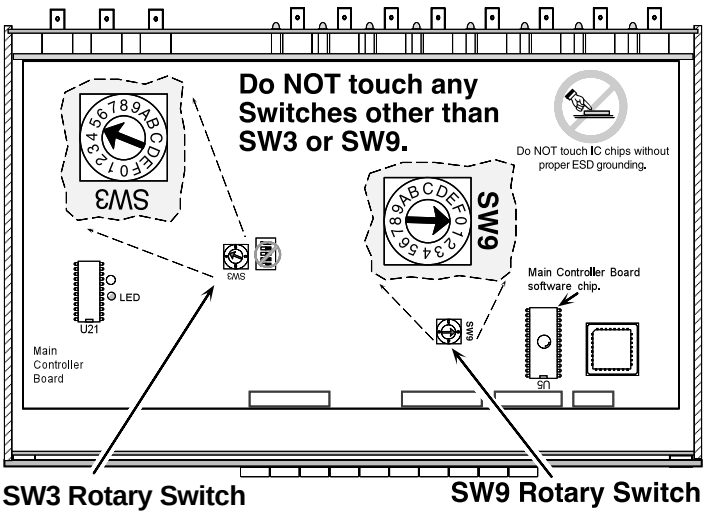
Changing the Baud Rate

The RS-232 protocol factory setting is 9600 baud, 8-bits, no parity, 1 start bit and 1 stop bit. The position of internal rotary switch SW3 on the main controller board controls the baud rate and parity. To change the switch setting, remove the four screws from the top of the case and lift the cover straight up. Locate SW3 (see drawing below) and use a small, flat blade screwdriver to rotate the switch to the desired position. SW3 switch positions are defined in the table below.

8-bit, no parity, 1 stop bit	8-bit, odd parity, 1 stop bit
0 = 300 baud	8 = 300 baud
1 = 600 baud	9 = 600 baud
2 = 1200 baud	A = 1200 baud
3 = 2400 baud	B = 2400 baud
4 = 4800 baud	C = 4800 baud
5 = 9600 baud	D = 9600 baud
6 = 19200 baud	E = 19200 baud
7 = 38400 baud	F = 38400 baud

_ *Adjust **SW3** to set the RS-232 Baud Rate and Protocol.*



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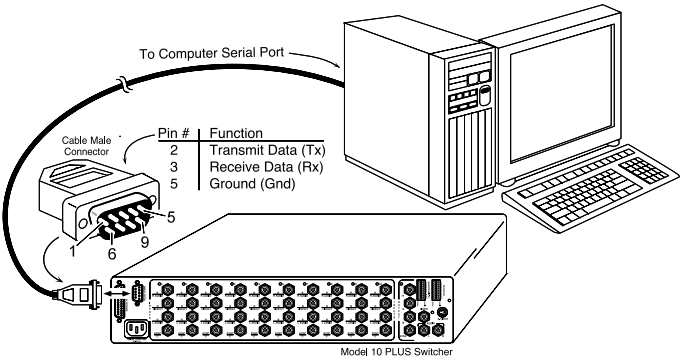
Model 8/10 PLUS Switcher Connection to Computer

To connect the Model 8/10 to a computer, refer to the picture below and connect the user supplied RS-232 cable from the computer (PC) serial port to the Model 8/10 PLUS Switcher connector labeled RS-232.



Triple Action Switching™ (RGB Delay)

This prevents image scrambling during switching time. When an input is selected, Triple Action Switching® does this:

1. Drop the RGB signals.
2. Wait 20 mS and then switch to the new sync signal.
3. Wait for the time delay set by the user (0.0 - 7.5 seconds) and then switch to the new RGB signals. (During this time the projector is setting up to match the new sync.)

SW9 is used to set the 0.0 - 7.5 second delay (See drawing on facing page). Each position of the switch changes the delay by 0.5 seconds and the adjustment range is 0.0 (Switch position 0) to 7.5 seconds (Switch position F). The switcher ships with SW9 set to the 0 position (0.0 seconds).

To change the SW9 switch position, remove the four screws from the top of the case and lift the cover straight up. Use a small, flat blade screwdriver to rotate the switch to the desired switch position. The switch position can be calculated by measuring (estimating) the period of time that the video appears out of sync after switching to a new input, then multiply the time period by 2 to determine the switch position.

Example:

Measured out of sync period = 4 seconds

4 x 2 = 8 (The required switch position for 4 seconds is #8.)

The switch positions above 9 are labeled in hexadecimal, i.e. switch position 10 is labeled A on the switch. ($10_{Dec} = A_{Hex}$, 11 = B, 12 = C, 13 = D, 14 = E and 15 = F)

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Notes:

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Chapter Three

Model 8/10 PLUS RS-232 Control

Host/Switcher Communications

Command/Response Table

Control Software

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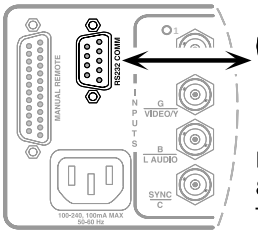
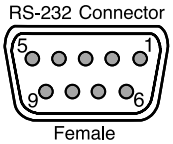
Model 8/10 PLUS RS-232 Control

The Model 8/10 PLUS switchers can be controlled through the RS-232 port by a Host device/system. The RS-232 connector location and pin assignments are shown in the drawing below.





Pin #	Function
2	Transmit Data (Tx)
3	Receive Data (Rx)
5	Ground (Gnd)

Factory Protocol Setting: 9600 Baud, 8-bits, no parity, 1 start bit and 1 stop bit. To change settings, see Page 2-7.

Software

Each Model 8/10 PLUS switcher ships with a 3.5" diskette containing Extron's Windows® compatible UNIVSW Control Software which enables the user to select the input and check switcher status in a Windows “point and click” environment. This software will be covered later in this chapter.

Host/Switcher Communications

The Model 8/10 PLUS Switchers treat any character that comes in on the RS-232 port as a possible command but accepts only a limited number as legal commands. There are no codes required to say that a command is coming, or that a command has ended. A simple command may be a single character typed on a keyboard and does not require any special characters before or after. (i.e. It is not necessary to press “enter” from the keyboard.) Simple commands could be from a terminal, or any other controlling device.

When the Model 8/10 PLUS switcher receives a command and determines that it is valid, it will execute the command and send a response back to the controlling (Host) device. If the command is determined by the Model 8/10 PLUS switcher to be invalid, an error response will be returned to the Host. All responses from the switcher to the Host begin and end with a carriage return and a line feed (CR/LF) signaling the end of the Response character string (string = one or more characters).

Using the Command/Response Table

The table on the following page lists those commands which the Model 8/10 PLUS switchers recognize as valid and the responses that will be returned to the Host. The Description column defines the Command, the results of executing the Command, or a definition of the response.

The Command string in the left hand column of the table is defined in the right hand column. The Command string is shown as ASCII characters, an ASCII to HEX conversion table is provided.

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Command/Response Table

Definitions and Abbreviations: ↵ = CR/LF · = space

V = Input channel, T = Video Format, M = Maximum # of inputs, Q = Software version

! = Delimiter character = Indicates end of input selection character string.
Characters also accepted as delimiters are: @ $ &

X1 = V value = (Model 8 = 1 - 8, Model 10 = 1 - 10)
X2 = T value = (1 = RGBS, 2 = RGsB, 3 = Composite, 4 = S-Video)
X3 = (8 if Model 8, 10 if Model 10) X4 = 0.00 - 9.99

ASCII/HEX: **0**/30 **1**/31 **2**/32 **3**/33 **4**/34 **5**/35 **6**/36 **7**/37 **8**/38 **9**/39 **!**/26 **E**/45 **i**/69 **I**/49 **M**/4D **n**/6E **N**/4E **Q**/51 **T**/54 **V**/56

ASCII Command	Response to Host	Command Description; etc
i	(Same as **I** Below)	**Information Request**
I	↵V X1 ·T X2 ·M X3 ·Q X4 ↵	(V, T, M and Q defined above)
X1**!**	↵V X1 ↵	**Switch to Channel** X1
n	(Same as **N** Below)	**Request for Part Number**
N	↵Nxx-xxx-xx↵	xx-xxx-xx = Part number
	Possible Error Responses	
(See Below)	↵E01↵	Invalid Channel Number
(See Below)	↵E10↵	Invalid Command Input

Error Code Descriptions

E01 An attempt to select channel 0 or channels higher than the switcher's M value of 8 or 10 will cause an E01 error response.

E10 The delimiter character must be entered within three seconds of entering the channel number, otherwise an error type E10 response will be returned to the Host.

Example Commands and Responses

Command	Response	Description
8!	↵V8↵	Select input channel 8
10!	↵V10↵	Select input channel 10
I	↵V2 T4 M8 Q1.23↵	V2 = Input Channel 2 T4 = S-Video Format M8 = 8 Inputs (Model 8 PLUS) Q1.23 = Software Version 1.23
N	↵N60-095-01↵	Part Number = 60-095-01

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Software

The Model 8/10 PLUS Switcher control software is a program called UNIVSW. It is Windows® 3.1, 3.11 and Windows 95 compatible and provides remote control of input selection.

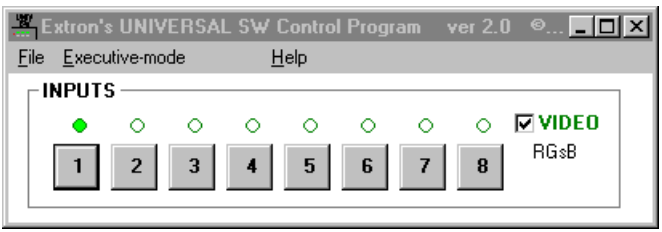
Installing the Software

The program is contained on a single 3.5” diskette and will run from the floppy drive. However, it will be more convenient to load and run it from the hard drive. To install the software from the 3.5” floppy disk onto the hard drive, run SETUP.EXE from the floppy disk. The program will occupy approximately 1 MB of hard drive space.

The Windows installation will create (by default) a C:\UNIVSW directory and will place 2 icons (UNIVSW Program and UNIVSW Help) into a group or folder titled “Extron Electronics”.

Using the Software

1. For information about program features, double click on the UNIVSW Help ICON in the Extron Electronics group or folder. [Help can be accessed from its Icon (stand-alone) or from within the program by the Menu on the Main screen or by pressing F1 from any point within the program.]
2. To run the software, double click on the UNIVSW Program ICON in the Extron Electronics group or folder.
3. A Comm menu will be displayed on the screen. Click on the Comm Port that is connected to the Model 8/10 Switcher RS-232 port.
4. The Extron UNIVersal SW Control Program window displays input selection (see picture below).



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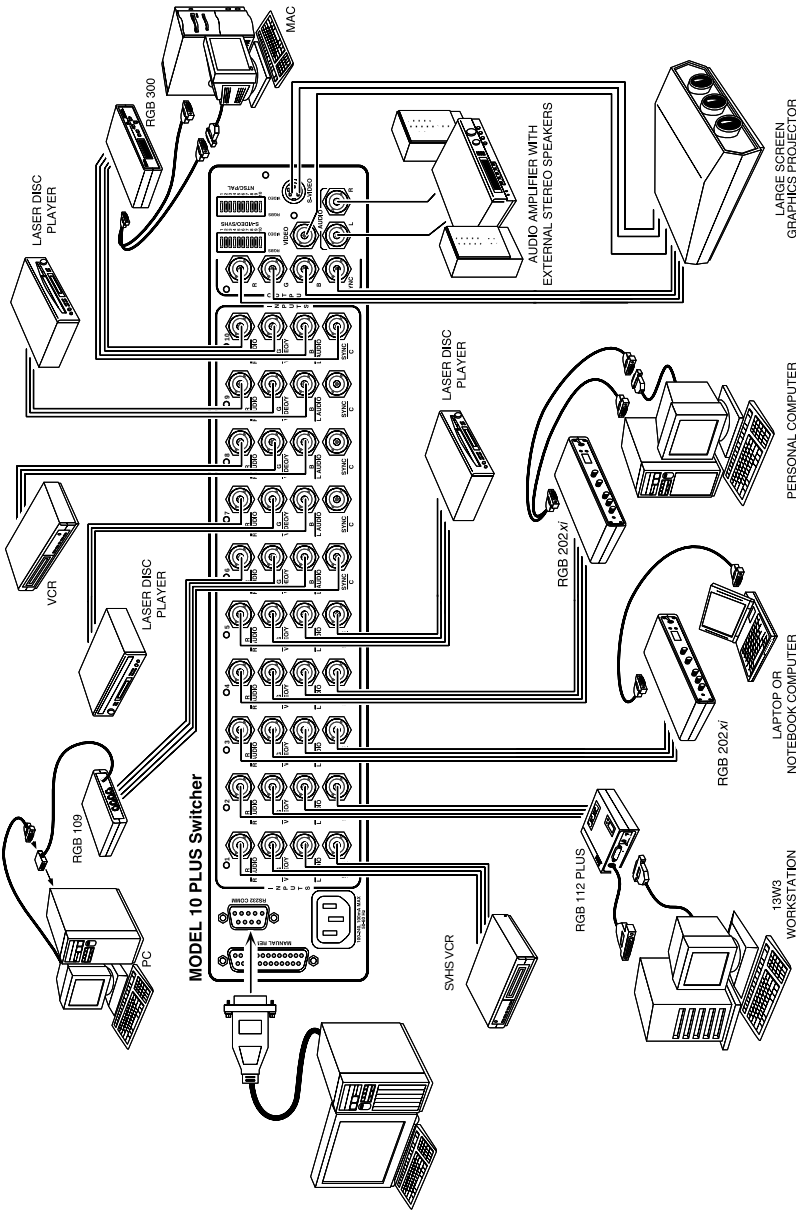

Model 10 PLUS Switcher w/PC RS-232 Control

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Notes:

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Appendix A

Configuring Features and Options

Remote Connector
KP-10 Remote Control
IR-10 Remote Control
Rack Mounting

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MANUAL REMOTE Connector

The MANUAL REMOTE connector provides a way to control the Model 8/10 PLUS switchers using Extron or third party remote control devices.

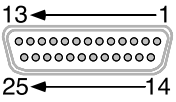
Extron Remote Control devices which are compatible with the Model 8/10 Switchers are the KP-10 and IR-10 which are covered on the following pages.

MANUAL REMOTE connector pin assignments are shown in the table to the right. To select a different switcher input number through the remote connector, momentarily short the pin for the desired input number (#) to logic ground (pin 25). To force the switcher to select that input # continuously, leave the short to logic ground in place, this will override front panel input selection.

The Tally pins can be used for remote indication of the switcher's selected input. Tally #1 - #10 (pins 14 - 23) will indicate the switcher's selected input # with a logic low (0 volts), the Tally pins are normally at logic high (5 volts).

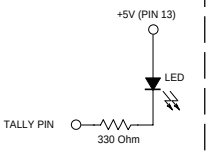
The schematics shown below may be used as a guide to design and build indicator circuits for the Tally pins. The +5 volt source on remote connector pin 13 is limited to 100mA, if a different voltage or a higher current is required, an external voltage source will be necessary.

MANUAL REMOTE
Female Connector

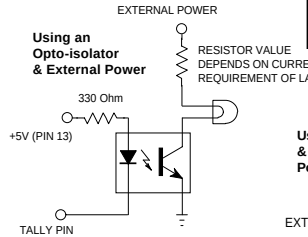


PIN	FUNCTION
1	Input #1
2	Input #2
3	Input #3
4	Input #4
5	Input #5
6	Input #6
7	Input #7
8	Input #8
9	Input #9
10	Input #10
11	Unused
12	Unused
13	+5V DC
14	Tally 1
15	Tally 2
16	Tally 3
17	Tally 4
18	Tally 5
19	Tally 6
20	Tally 7
21	Tally 8
22	Tally 9
23	Tally 10
24	Unused
25	Ground

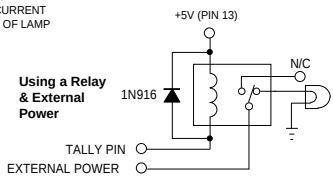
LED Indicator Circuit



Incandescent Lamp Circuits



RECOMMENDED RELAYS		
MANUFACTURER	GENERAL	LOW CURRENT
Aromat	DS2	TQ
ITT/Panasonic	R-Z-5C	A5W
Omron	G5Y	G6H



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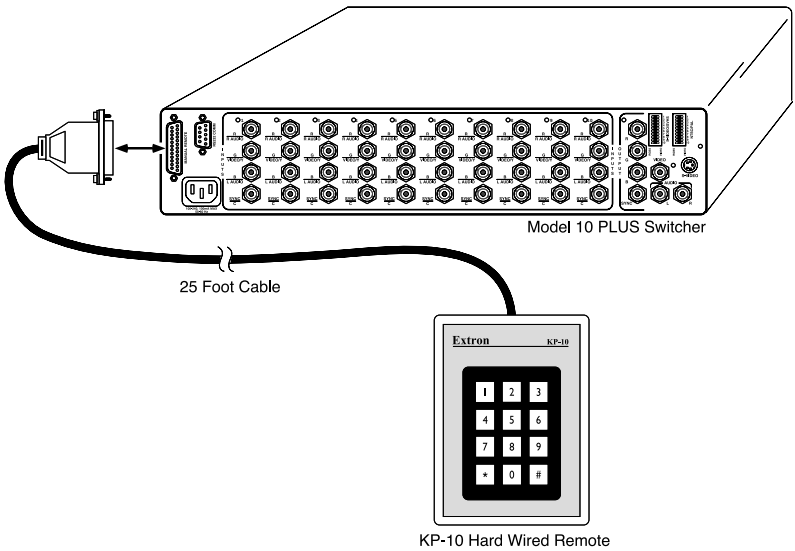
KP-10 Remote Control

The optional EXTRON KP-10 hard wired remote controller consists of a keypad, a 25 foot cable and a 25 pin D male connector that connects to the MANUAL REMOTE connector on the rear panel of the switcher (see drawing below).

With the KP-10 connected, all Model 8 PLUS and Model 10 PLUS front panel operations can be duplicated using keys 0 through 9 on the KP-10 keypad.

The KP-10 operates in parallel with the front panel and the RS-232 port. The Model 8/10 PLUS Switchers can be controlled from any one of these three sources and no one source has priority over the other.

The EXTRON part number for the KP-10 is **60-111-01**.



KP-10 Hard Wired Remote

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IR-10 Infrared Remote Control

The optional EXTRON IR-10 infrared (IR) remote control is a hand held unit. It communicates with the Model 8 PLUS and Model 10 PLUS switchers through an external IR detector that is connected to an adapter. The adapter connects to the MANUAL REMOTE connector on the switcher rear panel and gets its power from the +5 volts on pin 13.

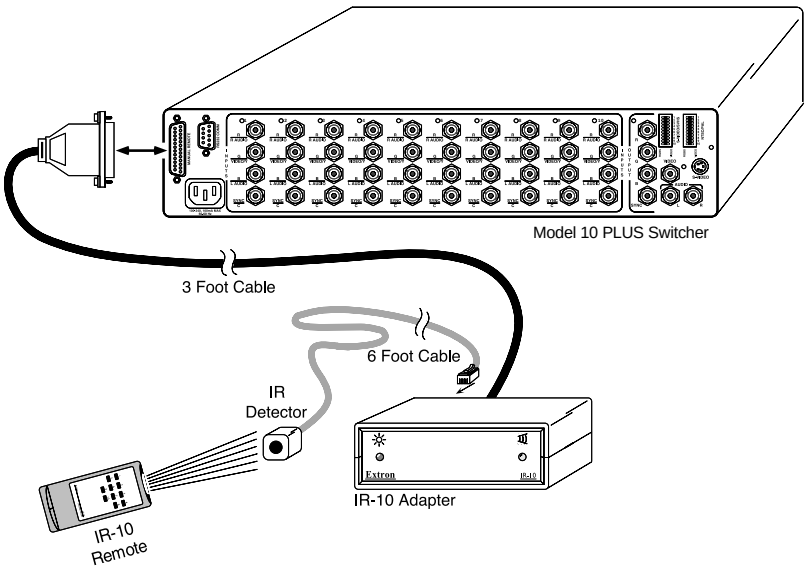
Operation requires pressing the key for the desired channel number while aiming the hand held unit at the IR detector. Approximate operating range is 30 feet.

The IR detector receives infrared signals from the hand held IR-10 remote control and converts them to logic signals. The logic signals are used by the adapter to duplicate front panel channel selection.

To install the IR-10 remote control system do the following:

1. Power OFF the switcher.
2. Connect the IR-10 adapter 25 pin plug to the MANUAL REMOTE connector on the rear panel of the switcher.
3. Plug the RJ-11 male connector into the IR-10 Adapter RJ-11 female connector.
4. Position the IR detector for the best reception of the infrared light from the IR-10 hand held remote controller (limited by a 6' cable).
5. Power the switcher ON.

The EXTRON part number for the IR-10 is **70-036-01**.



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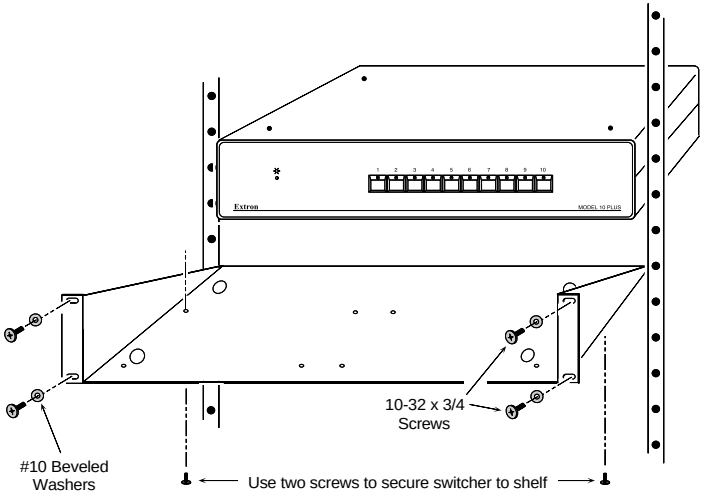
Rack Mounting

The Model 8 PLUS and Model 10 PLUS switchers can be rack-mounted using an optional 19" 2U Universal Rack Shelf, one switcher per shelf. The Extron Part Number for the Universal Rack Shelf is **60-032-01**.

The installation procedure follows.



Installing the 2U Shelf in a Rack

Use the four 10-32 x 3/4 black screws and #10 black beveled washers to mount the 2U Shelf in the Rack.

Installing the Model 8/10 PLUS Switcher on the Shelf

The 2U Universal Rack Shelf is designed to enable the Model 8 PLUS or Model 10 PLUS Switcher to set on the shelf with the switcher's four feet extending through four holes. It is not necessary to attach the switcher to the shelf with screws.

Upon completion of this procedure, return to the Installation Guide in Chapter 2 and continue with the next step in the procedure.

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Accessories/Part Numbers

Model 8 PLUS Switcher 60-094-01
Model 10 PLUS Switcher 60-095-01
Model 8/10 PLUS User's Manual 68-080-01

Universal Rack Shelf, 19" 2U 60-032-01C

KP-10 Remote Control 60-111-01

IR-10 Remote Control 70-036-01

S-VHS-BNC Adapter 26-353-01

BNC-4 HR Cable
BNC-4-3'HR (3 feet/0.9 meters) 26-210-01
BNC-4-6'HR (6 feet/1.8 meters) 26-210-02
BNC-4-12'HR (12 feet/3.6 meters) 26-210-03
BNC-4-25'HR (25 feet/7.5 meters) 26-210-04
BNC-4-50'HR (50 feet/15.0 meters) 26-210-05
BNC-4-75'HR (75 feet/23.0 meters) 26-210-06
BNC-4-100'HR (100 feet/30.0 meters) 26-210-07
BNC-4-150'HR (150 feet/45.0 meters) 26-210-08
BNC-4-200'HR (200 feet/60.0 meters) 26-210-09
BNC-4-250'HR (250 feet/75.0 meters) 26-210-54
BNC-4-300'HR (300 feet/90.0 meters) 26-210-53
BNC-4 Mini-HR Bulk (300'/90m up to 5000'/1500m) .. 22-073-01

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